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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/786,056

11/13/2001

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01142.0101

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07/24/2009

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EXAMINER

WEGERT, SANDRA L

ART UNIT

PAPER NUMBER

1647

MAIL DATE

DELIVERY MODE

07/24/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Art Unit: 1647

Since the *Decision on Petition* granted 2 May 2006, applicant has amended the pending claims and added new claims, such that the new claims and newly-amended claims are different from those petitioned and subsequently granted. The new claim set comprises several patentably distinct inventions. Therefore, the following restriction is required.

DETAILED ACTION

Election/Restriction

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in response to this action, to elect a single invention to which the claims must be restricted.

- I. Claim 13, 60-76, 78, 79 and 82-87, drawn to a method for screening compounds capable of binding to G protein-coupled receptors by subjecting a yeast host cell comprising a constitutively active heterologous G-protein-coupled receptor to a test compound and measuring cell growth.
- II. Claim 26, 52-59, 70-76 78, 79 and 81-87, drawn to a method for screening compounds capable of binding to G protein-coupled receptors by subjecting a yeast host cell to a test compound and measuring cell growth, the yeast host cell comprising a constitutively active heterologous G-protein-coupled receptor, as well as an additional mutation of the host cell gene that results in an improved functional response.

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The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The first claimed invention lacks a special technical feature because it fails to distinguish the claimed invention from the prior art (e.g., Clark, et al, 1994, J. Biol. Chem., 12: 8831-8841, of record). The prior art discloses a yeast host cell comprising a constitutively-active G-protein coupled receptor that meets the limitations of the G-protein coupled recited in the first claimed invention. Therefore, none of the other claimed inventions can share a special technical feature with the first claimed invention.

PCT Rule 13.2 defines special technical features as technical features that identify a contribution which each of the claimed inventions, considered as a whole, makes over prior art. Claim 13 is anticipated by prior art. Therefore, claim 13 lacks a special technical feature and cannot share one with the other claims.

Likewise, the methods of screening compounds each use a different host cell, one comprising a mutation, thus making them functionally different from each other and each of which can be made and used without the other. Lack of unity is shown because these methods lack a common utility which is based upon a common structural feature which has been identified as the basis for that common utility.

Species Elections

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Furthermore, if applicant elects Invention I (above), applicant is required to elect one species from each of the following:

1) A species of heterologous receptor:

- a) human alpha 2A adrenergic receptor
- b) M3 muscarinic receptor
- c) rat somatostatin SSTR2 receptor,
- d) a rat adenosine A2a [receptor],
- e) a rat muscarinic M2 receptor,
- f) rat M3 muscarinic acetylcholine receptor,
- g) a *D. melanogaster* muscarinic acetylcholine M1 [receptor],
- h) a rat neurotensin NT-1 [receptor],
- i) human vasopressin V2 [receptor],
- j) a rat CCK-A [receptor],
- d) a rat CCK-B receptor,
- k) a human GnRh [receptor],
- l) a human melanocortin MCR4 [receptor],
- m) a human α 2A adrenergic [receptor],
- n) an *Aplysia* octopamine OA1 [receptor],
- p) a human bombesin BRS3 [receptor],
- q) a human histamine H3 [receptor], or
- r) a human β 2-adrenergic [receptor].

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2) a species of chimeric G alpha protein:

- a) G α i2,
- b) G α i3,
- c) G α o,
- d) G α s,
- e) G α q,
- f) G α z,
- g) G α 11,
- h) G α 12,
- i) G α 13,
- j) G α 14,
- k) G α 15,
- l) G α 16

Furthermore, for Invention II, applicant is required to elect one species from each of the following:

1) A species of heterologous receptor:

- a) a human melanocortin receptor
- b) rat somatostatin SSTR2 receptor,
- c) a rat M3 muscarinic receptor
- d) a rat CCKB receptor.

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2) a species of mutated host cell gene:

- a) ERG2,
- b) ERG3,
- c) ERG4,
- d) ERG5,
- e) ERG6,
- f) HEM1,
- g) SUT1,
- h) PDX3,
- i) UPC1,
- j) UPC2 (UPC20)

3) a species of chimeric G alpha protein:

- a) *Gai2*,
- b) *Gai3*,
- c) *Gao*,
- d) *Gas*,
- e) $G\alpha_q$,
- f) *Gaz*,
- g) $G\alpha_{11}$,
- h) $G\alpha_{12}$,
- i) $G\alpha_{13}$,
- j) $G\alpha_{14}$,
- k) *Gal 5*,

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1) Gα16

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Advisory information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra Wegert whose telephone number is (571) 272-0895. The examiner can normally be reached Monday - Friday from 9:00 AM to 5:00 PM (Eastern Time). If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Manjunath Rao, can be reached at (571) 272-0939.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (in USA or CANADA) or 571-272-1000.

/SLW/

20 July 2009

/Dong Jiang/
Primary Examiner, Art Unit 1646